

**Dual Digital Low IF Complex Receiver**

5

**Abstract of the Disclosure**

10 A communications receiver and a method for receiving and processing information transmitted on either a wide band carrier, or a narrow band carrier having In-phase-Quadrature-phase (IQ) modulation, comprising, detecting a portion of the spectrum wide enough to encompass the wide band carrier (BW), converting the wide band carrier to baseband in I and Q components, each component having a bandwidth of  $BW/2$ , converting the I and Q components into further I and Q components to form components 15 II, IQ, QI, and QQ of bandwidth equal to  $BW/4$ , where each of the sub-bands may contain a portion of the originally transmitted information. Operating in wideband mode, each of the components is separately processed to extract portions of the originally transmitted information, and operating in a 20 narrowband mode, each of the components containing information is separately processed within the narrow band transmitted carrier to extract portions of the originally transmitted information. The components are then recombined to reconstruct the originally transmitted information.

25